

EXECUTIVE SUMMARY

This report describes our analyses of the effects of direct placement services provided by public labor exchanges (PLXs) to job seekers in the states of Washington and Oregon from 1987 to 1998. A nationwide system of state-Federal PLXs was created following passage of the Wagner–Peyser Act in 1933. Our goal was to determine their value and develop procedures that the U.S. Department of Labor (US-DOL) could routinely use to provide meaningful feedback to PLX program operators and state and Federal policymakers.

Overview of Our Findings on the Benefits and Costs of PLX Services

The primary focus of our work was to develop a means to accurately measure the returns to direct placement services—referrals and placements. To do this we relied on three data sets:

1. Survey responses from 587 job seekers referred to jobs by Washington State PLXs during the first half of 1998.
2. Administrative data covering PLX use during 328,815 spells of unemployment covered by unemployment insurance (UI) in Washington State from 1987 through mid-1995.
3. Administrative data covering PLX use during 138,280 spells of unemployment covered by UI in Oregon during 1995.

We used these data to estimate the effect of placements and referrals on the duration of unemployment. We also used a simulation model developed by Professors Davidson and Woodbury of Michigan State University to examine the extent to which reductions in unemployment to PLX users comes at the expense of nonusers.

Estimating the effect of PLX services is a very difficult task because the effects of these services per person are often small and because random assignment (experimental) designs cannot be used. Technical experts agree that experimental designs offer the best means to produce unbiased estimates, but PLXs must provide universal access, making it impossible to implement those designs. Thus, much of our work was aimed at finding alternative ways to produce results that an expert panel would agree are

unbiased. While we had some success in finding ways around the central problem, we did not have time to fully implement the solutions. Thus, our estimates of direct placement effects substantially narrow the range of plausible values, rather than provide tight point estimates.

Our primary conclusion from our analyses is that surveys have the potential to identify job seekers referred to jobs too late to obtain interviews, and that these individuals would serve as a comparison group to produce unbiased estimates of placement effects—the value of being placed relative to obtaining referrals.

The pilot procedures tested in this report produced estimates that job seekers with strong work records in our sample who were placed by PLXs experienced a 7.2-week reduction in their duration of unemployment, and placed job seekers with spotty work records experienced a 3.4 week reduction. These unemployment reductions translate into increases in earnings of \$1,872 and \$684 for job seekers with strong and spotty work records, respectively.

If we make the highly conservative assumption that placements are the only source of benefits from PLXs, placements must return more than \$542, on average, for PLXs to be cost effective. The placements included in our sample returned about \$978, on average. This calculation produces a respectable benefit-cost ratio of 1.8 for the sample studied.

Unfortunately, we cannot legitimately claim that the results generated from our pilot sample apply to all 11,144 claimants and 35,038 nonclaimants placed by Washington State PLXs in 1998. The primary problem is that the pilot sample was not representative of all placements. There also is some uncertainty about how close our unemployment reduction estimates are to the true values for those in the sample. This is because the small sample we used produced relatively large confidence intervals, and some bias may have been introduced because some job seekers in our comparison group may have been denied interviews because employers felt they were unsuitable. Fortunately, all three problems could be eliminated in future work by surveying a large representative sample and obtaining additional information about the reason for being unable to secure interviews.

A second important conclusion is that, once we have unbiased measures of placement-effects based on identifying job seekers who obtained referrals too late to secure interviews, those estimates can be used as benchmarks to produce unbiased results from administrative data alone.

Indeed, even though our survey-based estimates of placement effects are not definitive, those results for UI claimants were similar to those derived from analysis of the very large administrative databases for Washington State, especially when differences in business conditions are taken into account. The administrative data showed that benefits are about 30 percent greater in the trough of a business cycle than during its peak because there are fewer claimants to help in good times, and claimants can more readily find jobs on their own in prosperous periods. Thus, much of the differences observed could be attributed to business conditions being substantially better in 1998 than during the 1987-95 period covered by the administrative data.

We believe that the differences between the survey-based and administrative-data-based results were small for two reasons. First, the comparisons used to measure placement effects are restricted to job seekers referred to jobs. Thus, selection bias due to only some job seekers choosing to use PLXs is absent from these estimates. Usually this is the largest source of bias and the one that is most difficult to remove. Second, we speculate that only small biases were introduced due to the survey sample being nonrepresentative and some job seekers in the comparison group being rejected by employers

A third key conclusion is that placement-effect estimates substantially underestimate the total value to job seekers of direct placement services. Our estimates based on administrative data alone suggest that placement reduce claimants' unemployment by 7.7 weeks, while referrals not leading to placements reduce claimants' unemployment by 2.1 weeks. Because only about 1 in 5 claimants obtaining referrals are placed, even small per-person gains due to referrals not leading to placements would produce large benefits in total. Estimates based on administrative data suggest that about 55 percent of earnings gains come from placements, and 45 percent come from obtaining information from use of job banks and staff in the course of being referred.

Because we lack an unbiased estimate of referral effects for use as a benchmark we do not know how close our referral-effect estimates are to the true effects. However, we do know that referral effects estimates depend on comparing PLX-users to nonusers, and that selection bias in these types of comparisons consistently leads to underestimation of the true effect. In general, individuals volunteering to use government services have special difficulties that make them need the aid more than nonusers, but the factors that are associated with these differences often are not described well with available data.

Indeed, referral effects were zero prior to adjusting the raw differences between referred claimants and those not referred to account for selection bias. Also, experimental evidence on the effect of job search assistance (JSA) uniformly suggests that JSA has small positive effects. However, we believe

that PLX direct placement services are considerably more potent than the types of JSA studied using experimental designs. We, therefore, are confident that the true effect is considerably greater than zero, even if it is not as great as the 2.2-week estimate we produced. Thus, we feel that it is reasonable to believe that there are substantial benefits derived from obtaining referrals, even when jobs are ultimately located from other sources.

Clearly, obtaining unbiased referral-effect estimates for use as a benchmark is of enormous importance in estimating the value of PLX direct placement services with accuracy. Obtaining such a benchmark is difficult because it is not feasible to create a control group by denying access to PLX job-listings. However, it may be possible to develop unbiased benchmarks from an experimental design that would randomly call in claimants to review job listings. Although we could not prevent job seekers who were not called in from using PLX services voluntarily, we still could measure the bias associated with using nonexperimental estimators. Also, it may be possible to develop a reasonable estimate of referral effects based on experimental evidence of the value of job search assistance programs that do not require granting universal access.

A fourth key conclusion is that the per-person placement and referral effects for claimants in Oregon were considerably smaller than the effects in Washington State. Oregon administrative data suggest that placements reduced claimants' duration of unemployment by 4.6 weeks, and referrals not leading to placements reduced claimants' duration of unemployment by 1.1 weeks. Even though we have no unbiased estimates for use as benchmarks, we feel that it is reasonable to believe the biases in the Oregon and Washington results are similar. Thus, the differences in the results are primarily due to differences in the true effects.

These differences could stem from two key differences in the way claimants interact with PLXs in the two states. First, Oregon applies a more stringent work test and requires claimants to register with PLXs in person, where they are likely to also review PLX job listings. These actions makes it more likely that Oregon claimants who do not obtain PLX aid will quickly accept suitable jobs or stop claiming benefits, and those who examine listings will also quickly find jobs and pursue leads they develop on their own more vigorously. Second, Oregon spends more state funds on PLXs than does Washington, even though both states substantially boost expenditures above those provided by Federal programs. The higher spending in Oregon translates to more job orders available per PLX user in Oregon. Having more job orders per person also allows Oregon to refer and place about the same number of clients as Washington, despite having about half as many jobs available overall in Oregon as in Washington.

We suspect that the combination of claimants viewing listings early in their spells of unemployment and having more openings to choose from helps claimants who, on average, are more likely to find jobs quickly on their own. Certainly, the administrative data in both states shows that the per-person effects of direct placement services are far greater after the tenth week of unemployment. We could test these hypotheses more definitively by combining the data from the two states. However, that was not possible in this study because Oregon could not release its data to us, and we lacked the time to transfer the Washington data to Oregon.

Our fifth conclusion is that PLX direct placement services substantially reduce UI payments. However, these reductions equal about one-quarter of the gains in earnings. This evidence rests on estimates that use administrative data alone. However, we suspect that there is little bias in the estimate of the split between reductions in total unemployment, which raise job seekers' earnings, and unemployment covered by UI payments, which reduce UI payouts. Importantly, employers often only focus on the direct benefits of reductions in UI payroll taxes owing to reductions in UI payouts. However, they often overlook that they also benefit directly from vacancies being filled more quickly. Similarly, they often overlook that they benefit indirectly from being able to reduce wages they must pay their workers to compensate them for the risk of job loss and temporary unemployment stemming from PLXs making these situations less costly to job seekers.

Our final key result is that 80 percent of the benefits to claimants were derived from helping employers fill vacancies more quickly. This directly leads to expanding the production of goods and services and reducing their price. The simulation model we used also suggested that the negative "crowding-out" effects on nonclients are small per person, equal to only about 2.5 hours of work. As with our other evidence, we do not claim that we proved that the crowding-out effect is exactly 20 percent, but that the true effect is in the neighborhood of that value.

In summary, our most important achievement is developing a procedure that we are confident would produce unbiased estimates of placement effects, if fully implemented. Also, we have developed several additional procedures that might produce unbiased estimates of referral effects. Having measures that technical experts agree are unbiased is of enormous importance because these estimates could be used as benchmarks for developing measures to use administrative data alone to also produce unbiased estimates.

While technical experts do not agree that our current estimates are unbiased, our evidence on the effectiveness of direct placement services suggests that the benefits are substantially

greater than the costs— returning perhaps as much as \$2 for each \$1 spent. Our best evidence for this view is that the placement-effect estimates that use the administrative data and survey data in Washington are similar and the bias in these estimates is likely to be relatively small. Also, our analysis suggests that referral effects are considerably greater than crowding out effects. In short, while we do not have point estimates that experts would agree precisely identify these effects, the estimates we do have considerably narrow the likely range of plausible effects. Importantly, we have outlined additional analyses that would further shrink the plausible range of these effects.

Overview of Our Findings on Ways to Improve Monitoring of PLX Activities

Although the primary focus of our work was to develop ways to accurately estimate the benefits and costs of direct placement services, we also examined the value and feasibility of using the measures we created to routinely monitor PLX performance. Our central conclusion is that **it would be highly feasible to routinely use the measures derived from administrative records** because the data required are not very different from those needed to implement the measures called for in the Workforce Investment Act (WIA).

Of great importance, while the measures are not perfect, **they provide information that is likely to help PLX managers and staff substantially increase the value of PLX services**, as well as provide a reasonably accurate view of the total value of PLX services. In particular, the measures we produce here have the potential to assist in making key decisions about:

- When, relative to the start of unemployment spells, claimants should be given PLX services.
- How effort should be divided between securing and filling job orders versus providing labor market information that can help clients find jobs on their own.
- What types of clients benefit the most from placements versus information that helps finding jobs on one's own.

In sharp contrast, maximizing WIA measures, such as the entered employment rate, is likely to lead to decisions that reduce the value of PLX services. The central problem with WIA measures is that they give incentives for PLXs to serve clients most likely to find work on their own rather than clients who will benefit the most from PLX aid. Importantly, the problems with use of descriptive statistics as performance measures is much greater for PLXs that grant universal access than for targeted programs

such as those funded under JTPA. Specifically, creaming and other negative consequences of using measures like the entered employment rate were minimized under JTPA because program operators were required to enroll clients with substantial impediments to finding jobs on their own.

We learned a great deal about the feasibility of a state agency creating the measures because the Oregon Employment Department (OED) did all of the data processing for the Oregon study with little help from us. However, the data processing has to be carefully executed. In particular, the completeness of the coverage of individuals in the raw files needs to be checked against published statistics, and the transformation of each variable needs to be checked by comparing the input and output files at each stage.

Finally, it is our view that the appropriate criterion for use of the measures in this report is whether they are superior to other measures. The measures do not need to be perfect in order for them to be highly useful. At the same time, every effort should be made improve the statistical quality of the estimates. Thus, the additional work outlined in the preceding section would be of substantial value. However, even that work would not be sufficient to measure referral effects accurately using administrative data for nonclaimants and to expand the range of PLX services included in the analysis. Producing these measures would further increase the usefulness of the measures. Considerable progress in developing those measures could be made using an expanded mail survey that included telephone followup.

The major threat to developing a comprehensive measurement system, however, is the rapid spread of PLX computer systems that allow clients viewing listings to obtain contact information without staff intervention. Only in Oregon are self-referrals tracked, but **without such tracking, it is almost impossible to measure the benefits of direct placement services**. Thus, the benefits and costs of the Oregon system merit careful study. **If the analysis is positive, serious consideration should be given to requiring that self-referrals be tracked nationwide.**

Details of the Individual Studies

The above sections summarize our overall findings for all four of the studies presented in Chapters 3 through 6. The next few sections of the executive summary provide additional information to make the results and estimation procedures of the individual studies clearer. Additional background information about PLX operations, estimation techniques, and results are found in Chapters 1 and 2. Chapter 7 presents an expanded discussion of the issues raised in this overview, and presents more

information about the conceptual framework of our analysis. Chapters 3 through 6 present our work in sufficient detail for technical experts to assess the quality of that work independently. Obtaining feedback from experts is important because the accuracy and relevance of the innovative estimation procedures used **need to be independently judged in order for the results to be widely accepted**. Chapter 8 presents our expert panel’s comments, a summary of areas of agreement and disagreement, and suggestions for future analysis.

As noted earlier, our primary focus was estimating reductions in unemployment due to referrals and placements of job seekers with strong work records, most of whom were unemployment insurance (UI) claimants, and of job seekers with weak work records. All those benefiting from PLX services had reached Step 5 on the job search path shown in Table 1. These job seekers had decided to search for work (Step 1), decided to obtain assistance from PLXs (Step 2), were able to look at PLX job listings (Step 3), looked at PLX job listings (Step 4), and found promising listings for which they wanted contact information (Step 5).

Table 1. Job Search Path from Deciding to Search for Work Through Deciding to Use PLXs to Placement by a PLX

| Steps to surmount | | Path ending outcomes |
|--------------------------|--|---|
| Step 1. | Unemployed worker decided to search for work | a. Recalled by former employer b. Retired c. Dropped out of labor force |
| Step 2. | Job seeker decided to use PLX | No desire to use PLX |
| Step 3. | Job seeker gained access to PLX | Unable to use PLX because services were unavailable or too difficult to access |
| Step 4. | Looked at PLX listings | Found no suitable jobs |
| Step 5. | Found promising listings | Decided not to interview for those jobs |
| Step 6. | Tried to obtain an interview | a. Job or interview slots filled b. Employer rejected job seeker based on prescreening |
| Step 7. | Obtained interview | Did not receive an offer |
| Step 8. | Received an offer | Rejected offer |
| Step 9. | Accepted offer | Did not show up for work |
| Step 10. | Showed up for work | Placed by PLX system |

Our research focused on measuring the value of direct placement services because:

- Maintaining a universal system for employers to list job openings and for job seekers to view those openings is the distinguishing feature of PLXs and absorbs most of its costs;
- PLXs' provision of direct placement services plays a central role in the shift from the government's "train-first" to "work-first" policy, and it was an opportunity to determine how well the policy was working; and
- Little is known about the value of direct placement services because the required universal access precludes use of a random-assignment design, and devising accurate alternative measurement techniques is extremely difficult.

We examined three benefits of direct placement services to job seekers: (1) gains in earnings attributable to reduced periods of joblessness; (2) reductions in unemployment insurance payments, which primarily benefited employers in the form of reduced payroll taxes; and (3) increases in the overall efficiency of the labor market that benefit society at large by expanding the amount of goods and services that are available and by lowering their price.

We focused on two different ways PLXs can assist job seekers. The first is by directly placing individuals at jobs listed with the PLXs (Step 10 in Table 1). The second is by providing information that helps job seekers find jobs more rapidly on their own or accept jobs to which PLXs supplied referrals (Steps 4 through 9 in Table 1). The benefits of direct placement are obvious. Less obvious is that looking at listings and obtaining information about job prospects from PLX staff can provide job seekers with a more realistic assessment of the pay and other characteristics of jobs they are likely to find on their own and better ways to locate suitable jobs. The literature on job search suggests that lack of accurate information is a major impediment to finding work quickly.

Accurate measurement of the effect of referrals and placements hinges on comparing what actually happened to job seekers receiving those services, which is directly observable, to what would have happened had those services not been received, which is not directly observable. Our research explored two alternatives to the use of a random-assignment design for determining what would have otherwise happened. The first was to take advantage of a natural experiment identified through use of a mail survey. When properly used, this information can come close to the ideal of comparing PLX placed job seekers to job seekers who were identical to those placed except that they were unable to secure interviews after being referred.

The second alternative was based on attempting to obtain sufficient administrative information about job seekers to identify differences in individuals that affected their job-search outcomes and use of PLXs. This information permits estimating what happened to job seekers in a comparison group of those individuals who were not referred but whose characteristics were identical to those who were placed or referred by PLXs.

Natural Experiment Placement Results from the 1998 Washington Mail Survey

We determined through use of a mail survey that many job seekers were unable to secure interviews after being referred to desirable jobs. Information provided by PLX staff suggests that in almost all of the cases interviews could not be secured because lags in removing the listings led PLXs to make referrals after jobs (or interview slots) had been filled. This natural randomization created a situation similar to a “true” experiment in which randomly selected job seekers, who decided to interview for promising listings, would be told by employers that the job was already filled (whether or not that actually was the case).

We conducted a pilot test by mailing questionnaires to 3,000 individuals who were referred to jobs by Washington State PLXs in the first half of 1998 but not placed at those jobs (or at any other PLX-listed job in the subsequent 4 weeks). This test was designed to determine (1) if sufficient numbers of individuals were unable to secure interviews because the jobs (or interview slots) had been filled and (2) if we could obtain a sufficient number of responses to measure the value of placements. We also mailed questionnaires to 3,000 individuals who were placed at the same PLX-listed jobs during the same 1998 period.

We received 1,115 responses from the 6,000 mailings; 43 percent were from referred-but-not-placed individuals. A total of 587 contained sufficient information to measure the effect of placements. This information showed that 33 percent of those referred tried but were unable to obtain interviews. Our analysis showed that placed job seekers with considerable work experience found jobs 7.2 weeks sooner than they would have had they found promising PLX openings but were unable to secure interviews. Placed job seekers with little work experience found jobs 3.8 weeks sooner than otherwise would have been the case. (In both cases, job seekers at Step 10 were compared to those at Step 6.)

The above results are not the same as those that would be generated from a true experiment mainly because employers may have denied interviews to some job seekers who were not well qualified for

their jobs. Given the information we obtained from PLX staff, we doubt that this seriously biases the results. A far greater problem to accurately measuring total benefits is that the sample itself was small, and only a small fraction of those sent surveys returned them. Thus, it is possible that our results differ substantially from the true average effect due to nonresponse bias.

Despite these shortcomings, we use the above results to provide a ball-park illustration of the size of the total benefits. To do this we multiplied the above results by published data on the number of individuals placed by Washington State PLXs in 1998, and then multiplied that product by an estimate of post-unemployment weekly earnings. This procedure produced an estimate of \$45 million in job seekers' earnings gains resulting from placements alone—a figure equal to 1.8 times the total cost of running the Washington PLXs (\$25 million) in 1998, which already is a respectable ratio for any government program.

It is our view that this 1.8 figure is a reasonable first approximation of the true benefit-cost ratio. Even if we have considerably overestimated the true value of placements, the value of the information provided by PLXs that does not lead to a direct placement as well as the value of other services, which is omitted from this estimate, is most likely considerably greater than our estimates of the crowding out effects. There are defects in the analysis due to both a small and nonrepresentative sample, and also from the fact that employers have screened out some job seekers requesting interviews. Importantly, these can be overcome by using telephone followup to secure a large, representative sample and by revising the survey to determine whether job seekers were asked any questions when they tried to set up interviews that could have allowed employers to screen out applicants.

Indeed, had we known in advance that 33 percent of those referred tried but were unable to secure interviews and that the mail response rate only would be about 20 percent, we would have asked the US-DOL to make the substantial investment needed to conduct telephone followup. However, without this information, we felt that it was prudent to first determine the potential value of the mail survey approach.

A shortcoming of the mail survey study, which probably cannot be remedied, is identifying a natural experiment that would permit us to measure the effect of referrals that do not lead to placements. If we were going to use a random assignment design, our key goal would be to intervene at Step 3 on the placement path shown in Table 1 to create a control group of job seekers who wanted to view PLX job listings but were unable to do so. Establishing this control group would permit us to determine the value of information that job seekers obtained from viewing listings and discussing their suitability with PLX

staff. However, with the possible exception of job seekers living in isolated rural areas, all job seekers can easily visit PLX offices or view listings using computers at libraries and other public places. Also, job seekers with access to personal computers in both rural and urban areas can view listings using the Internet.

Not having reliable experimental evidence about the value of referrals that do not lead to placements is an important shortcoming. First, experimental evidence suggests that job search assistance that is less intensive than obtaining information from viewing PLX listings and interacting with PLX staff is of substantial value. Second, even a small per-person referral effect would greatly increase total PLX benefits because four out of five job seekers who obtained referrals were not placed by PLXs.

Nonexperimental Referral and Placement Results for Washington Claimants from 1987-95 Administrative Data

Although we could not produce experimental estimates of referral effects, we were able to obtain a plausible range of estimates by applying nonexperimental techniques to PLX administrative data. We did this by comparing the duration of unemployment of job seekers who were referred but not placed (who reached Step 4 in Table 1 but did not reach Step 10) to job seekers who were not referred (did not reach Step 4) and in most cases did not use PLXs at all (did not reach Step 3).

Importantly, we also used the same technique to replicate the estimates derived from the natural experiment identified with the mail survey to estimate the value of placements (reaching Step 10) relative to obtaining information from the listings and PLX staff (reaching Steps 4 through 9). These results were similar to those generated from the mail survey, which suggests that biases in the techniques using the natural experiment and administrative data are reasonably small.

Because administrative data only provide the detailed information needed for this analysis for UI claimants, we limited the nonexperimental analysis to this one group. In particular, the data describe how long claimants have been unemployed when they receive PLX services and, in most cases, when they returned to work. Being able to produce separate estimates based on how long claimants were unemployed at the point they received PLX aid proved to be a particularly potent way to take into account factors that influence PLX use and subsequent duration of unemployment that were not directly observable.

Also of considerable importance, UI claimants are likely to either be reemployed or searching for work, rather than having retired or dropped out of the labor force. Using these data, therefore, greatly reduces measurement problems stemming from an inability to distinguish between jobless individuals who are looking for work and those who are not looking.

Thus, it is reasonable to believe that our analytic technique explicitly or implicitly held constant many of the factors that affect job search outcomes, as well as those leading to an individual's decision to use PLX services and, thereby, was relatively free of bias. However, as mentioned earlier, we could not measure the amount of residual bias in our measure of referral effects because we could not create a benchmark derived from a random assignment design.

As shown in Table 2, we used administrative data alone covering 1987 through 1995 to estimate that Washington State claimants who were referred but not placed returned to work 2.1 weeks sooner than they would have if they had not obtained referrals. As noted earlier, both placed and referred-but-not-placed claimants may benefit from having more accurate information about the difficulty of finding suitable work, as well as from having more opportunities to interview for jobs. Thus, PLX users may more quickly accept job offers they obtain on their own or receive as a direct result of PLX referrals than they would if they had less accurate information about the state of the job market.

Table 2 also displays our estimate that the reduction in joblessness of placed claimants (those reaching Step 10) was 7.7 weeks less than those who were referred-but-not-placed (those reaching steps 4 through 9). The 7.7-week estimate measures precisely the same benefit source as the 7.2-week estimate derived from the natural experiment revealed by our mail survey for 1998, but applies to the 1987-95 period. Importantly, our year-by-year analysis of the Washington administrative data indicates that the effect of being placed in 1987-95, a period strongly affected by recessions, is at least 15 percent greater than being placed in 1998, a prosperous year.

Applying the 15 percent differential to the 7.2-week estimate suggests that the effect of being placed in 1987-95 would be about 8.3 weeks. Thus, if anything, the nonexperimental estimator produces conservative results. Importantly, a direct comparison using the 1998 mail survey and 1998 administrative data also suggests that the nonexperimental measures underestimate placement effects. Also, unlike the mail survey results, these results are based on an exceptionally large, representative sample.

Table 2. Study Characteristics and Measures of PLX Benefits

| Data source | Population studied | Back to work effect of: | | Total PLX benefits per year ² | Benefit – cost comparisons ³ |
|---|--|--|---|--|--|
| | | Placement relative to referral | Referral relative to no referral ¹ | | |
| Study-1 Washington Mail Survey and Administrative Data for the first half of 1998 | A sample of 587 individuals referred to PLX job openings | 7.2 weeks sooner for job seekers with strong work records 3.8 weeks sooner for job seekers with weak work records | Not examined | \$45 million for all 1998 PLX users from placements alone | Annual cost \$25 million Benefit-cost ratio 1.8 |
| Study-2 Washington Administrative Data for 1987–95 | A sample of 328,815 spells of unemployment experienced by UI claimants | 7.7 weeks sooner | 2.1 weeks sooner | \$11 million for claimant placements alone 1987-95 \$25 million for claimant placements and referrals 1987-95 | Annual cost \$25 million 35 percent spent on claimants Benefit-cost ratio between 1.2 and 2.8 |
| Study-3 Oregon Administrative Data for 1995 | A sample of 138,280 spells of unemployment experienced by UI claimants | 4.6 weeks sooner | 1.1 weeks sooner | \$15 million for 1995 claimant placements alone \$30 million for 1995 claimant placements and referrals | Annual cost \$26 million 38 percent spent on claimants ⁴ Benefit-cost ratio between 1.6 and 3.1 |

¹ Referral effects measure the value of information obtained by viewing PLX listings and obtaining staff aid that improves the decisionmaking of placed and nonplaced PLX users.

² Study 1 uses published statistics to estimate the number of placements. Study 2 uses tabulations of person-level files to measure the number of placements and referrals. Study 3 uses both sources of information. Use of published data for 1995 raised benefit estimates for Study 2 to \$42 million for placements and referrals together and \$13 million for placements alone. This increased the 1995 benefit-cost ratios to 4.5 for placements and referral and to 2.1 for placements alone.

³ Benefit-cost ratios are not adjusted for crowding-out effects analyzed in Chapter 6. Their inclusion would reduce the ratios by about 20 percent.

⁴ Only 25 percent of Washington PLX costs went to referring claimants in 1995.

If we ignore the value of information obtained in the course of being referred, the total benefits in terms of job seekers' earnings gains are about \$11 million per year for 1997-95. This amount equals about 55 percent of the entire yearly cost of running the PLXs. But we estimate that only about 35 percent of PLX costs went to helping claimants. Reductions in UI payments to job seekers who were placed equaled about \$2.6 million per year. Thus, job seekers' net income gain was about \$8.4 million each year. However, employers benefited from the reduced UI payouts by having their tax burden reduced.

The above calculations produce a highly respectable 1.7 benefit-cost ratio. The benefit-cost ratio was particularly high in the 1991-93 recessionary period because jobs were hard to find, many claimants needed help, and UI payments were extended to cover much longer periods than usual. Total benefits in today's economic conditions are considerably less than in 1991-93, mainly because in this boom time, PLXs are assisting far fewer claimants. Nevertheless, economic conditions in 1990 were not much different from today's, and total benefits accruing to claimants in that year equaled 40 percent of the total cost of running the entire PLX system in Washington

If we accept as accurate the 2.2-week estimate of the per-incident value of information not leading to a placement, adding these benefits (\$14 million) to those for claimants who were placed increases average total benefits to about \$25 million per year for 1987-95. This is roughly equal to the entire annual cost of running the PLXs. About 55 percent of the benefits are due to placements and the remainder to referrals that do not lead to placements. Placements account for most of the benefits because placement effects are about five times greater than referral effects, even though four times as many claimants are referred but not placed, as are placed.

We feel that a careful comparison between our referral effect estimates and existing experimental evidence on the value of job search assistance would be very useful to determining whether our 2.2-week estimate is unreasonably high. Our quick review of the differences between PLX services studies here and the types of job search assistance studied using random-assignment designs suggest to us that the benefits are much closer to \$25 million per year than to \$11 million. Unfortunately, we lack experimental evidence that can provide a precise estimate of the effect of measurement bias on our estimates. Thus, we have presented a plausible range for our estimates.

However, we can further refine our estimates using information from Davidson and Woodbury's simulation of the effect of PLX services on overall employment and unemployment in Washington State presented in Chapter 6. Their analysis suggests that our 1.7 benefit-cost ratio should be

reduced to 1.4. This reduction occurs because about 20 percent of the benefits gained by job seekers who obtained PLX referrals came from crowding out job seekers who did not obtain referrals but who would have found out about these jobs without PLX aid, secured interviews, and possibly been hired.

This simulation, which used Westat's measures of PLX effectiveness, also suggests that the crowding-out effect is dispersed across tens of thousands of workers. The negative effect, therefore, is extremely small per capita, amounting to a loss of about 2.5 hours of work per person. Overall, the positive effect of PLX activities far outweighs the negative effect and leads to a reduction in the average duration of job search. This reduction creates a small but measurable increase in employment and a decrease in unemployment. These changes benefit society at large by increasing the total output of goods and services and benefit employers by helping them fill vacancies more quickly.

In summary, our Washington State analyses suggest that the benefits from PLX direct placement services are at least 1.4 times the cost of helping claimants. The analyses also suggest that the benefit-cost ratio was considerably greater during the economic recessions that occurred in the early 1990s when extended benefit programs were in place.

Nonexperimental Referral and Placement Results for Claimants from 1995 Oregon Administrative Data

The final component of our work was to replicate the Washington State claimant analysis using Oregon administrative data covering claimants. The Oregon Employment Department carried out all the data processing for this project to our specifications. The key results, shown in Table 2, are that in 1995, claimants placed by the Oregon PLX were unemployed 4.6 fewer weeks than they would have been if they had only obtained the information associated with being referred; claimants who obtained the information associated with being referred were unemployed 1.1 fewer weeks than they would have been had they not been referred (and mostly not obtained any PLX service).

While the per-person effects were considerably smaller for Oregon than for Washington, the total benefits were similar because Oregon referred and placed far more claimants. The higher referral and placement rates were entirely unexpected because in 1995 Washington had about 50 percent more job vacancies than did Oregon. However, Oregon employers listed a much higher proportion of their vacancies with local PLXs. We believe that Oregon PLXs were able to secure so many listings because

state funds were used to boost PLX spending to roughly the same level as Washington's despite receiving 50 percent less in Wagner–Peyser and other Federal funds.

As shown in Table 2, we estimate that Oregon PLXs spent about 38 percent of its budget on claimants, compared to 25 percent by Washington PLXs. Because it took more resources for the Oregon PLXs to make referrals and placements, Oregon's benefit-cost ratio is considerable less than Washington's. However, we feel that it would highly worthwhile to include the effect of additional PLX services and work-test enforcement in the analysis. A more comprehensive analysis might boost the total benefits of Oregon PLX expenditures to bring the benefit-cost ratio up to Washington's level. Indeed, Oregon's per-incident effects could be smaller than Washington's because the comparison group has been positively affected by services and procedures that were not included in our analysis. Moreover, this analysis might suggest ways to further increase benefits by altering the mix of services. For example, the analysis we have completed suggests that shifting resources to give more attention to claimants with long durations of unemployment might substantially increase benefits.

Our confidence in the Oregon results could be greatly improved by using a mail survey with telephone followup to identify job seekers who were unable to obtain interviews because jobs (or interview slots) were already filled. Also, the Oregon administrative data appeared to incompletely cover claimants and their receipt of PLX services. Although we do not know the source of this problem, the identical problem occurred in the first 2 years covered by Washington administrative data. Thus, we believe that it may take about 2 years to properly test and organize the administrative data needed to estimate the benefits of PLX direct placement services. However, the experience we gained working closely with Oregon State officials suggested several ways to improve the data assembly process so that the type of data used in this study could be routinely collected and analyzed to provide meaningful ongoing feedback.

Summary of our Main Conclusions

Overall, these studies of PLX benefits have:

- Produced results suggesting that PLX direct placement services are highly cost-effective in two states;

- Developed procedures that can be used at a reasonable cost and on an ongoing basis to produce:
 - Highly accurate measures of placement effects that resemble those that would be derived from a random-assignment design;
 - Measures of referral effects that substantially reduce uncertainty about the plausible range of these effects;
- Shown that only a small fraction of the gains to referred PLX users were at the expense of crowding out job seekers who were not referred; and
- Demonstrated that it is feasible for state employment security agencies to produce value-added estimates, and that these estimates should be able to be produced within the same time frame and at about the same cost as measures that would not be nearly as useful for improving services and evaluating overall success.

While we have made substantial progress in determining ways to accurately estimate the value of direct placement services, ways that also could be used on an ongoing basis, we do not claim that our estimates are definitive. Indeed, it is our view that a lot more work needs to be undertaken to fully exploit the leads developed in this report.

Thus, the insights developed in the course of completing this study should be of value in completing a broader benefit-cost analysis of PLX services in Oregon, Washington, as well as Colorado, Massachusetts, Michigan, and North Carolina. The US-DOL also could use them to create meaningful performance measures for monitoring ongoing PLX operations in all states, and justify ensuring that all referrals and placements, even those made by fully automated job banks, are tracked with administrative data.